



Retrofittable Low-pressure EGR for Diesel NOx & PM Control

**CT DEP Clean Diesel Fuels & Technology
Forum**

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Hartford, CT
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**Low-pressure EGR was developed
by STT Emtec, AB in cooperation with
Johnson Matthey, Inc.**

**The system is being marketed
under the
EGRT™ trademark**

Underlying Operating Principals

**Formation of NO
is affected through peak combustion
temp and O₂ content**

**Formation of NO₂
is affected through content of NO & O₂
in the exhaust**

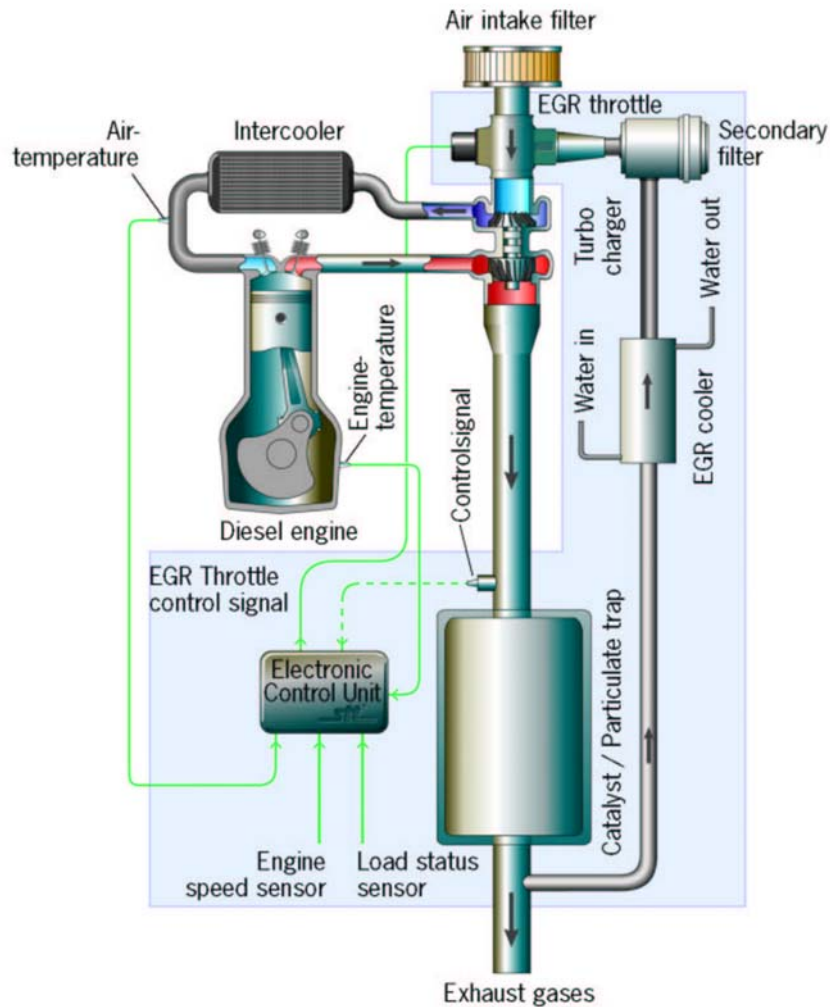
EGR controls both, NO & NO₂

EGRT System Layout

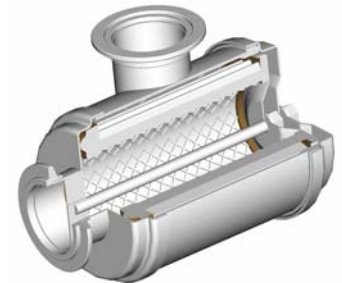
Valve



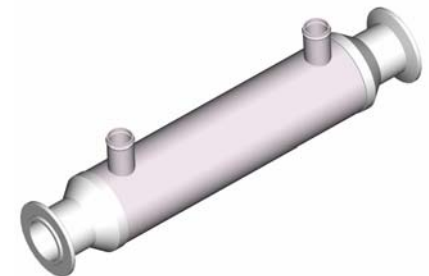
ECU



Secondary Filter



Cooler



Important EGRT Features

Re-circulates Clean Cooled Exhaust Gas

Excellent Transient Controllability

OBD System

Engine and DPF Protection

**Built-in Memory with Datalogging
Capability and Failure Code Retention**

**EGRT Is CARB Verified
as a Level III
Retrofit Technology
Reducing
PM >85% & NOx >40%**

Verified Emissions Control Group

On-road Applications Of The Following Engine Models:

**International DT-466
Cummins ISB, ISC, ISM, and ISL
DDC S50 and S60**

**New Models Are Being Added
Per Customer
Requests**

EGRT Applicability

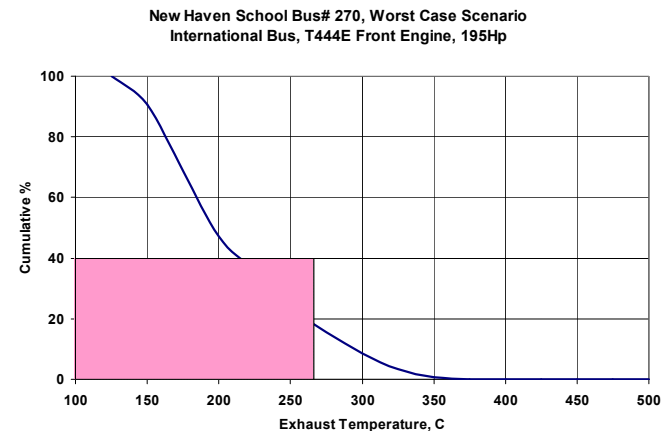
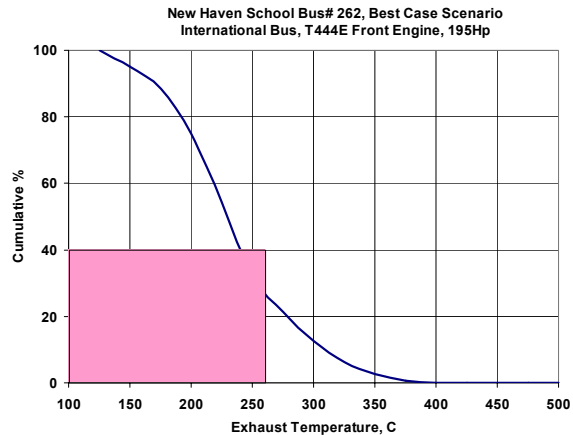
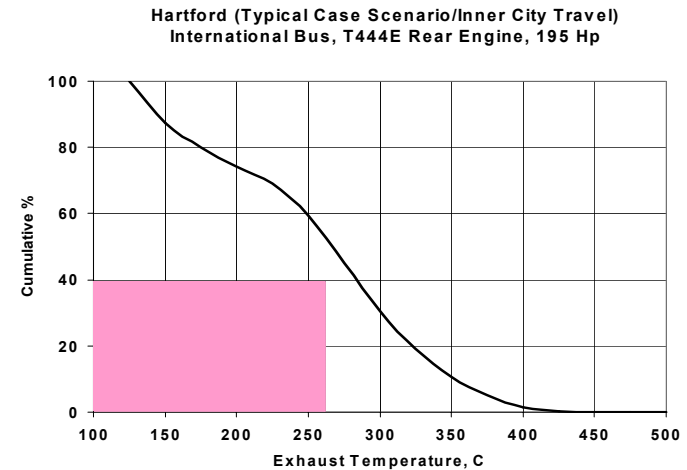
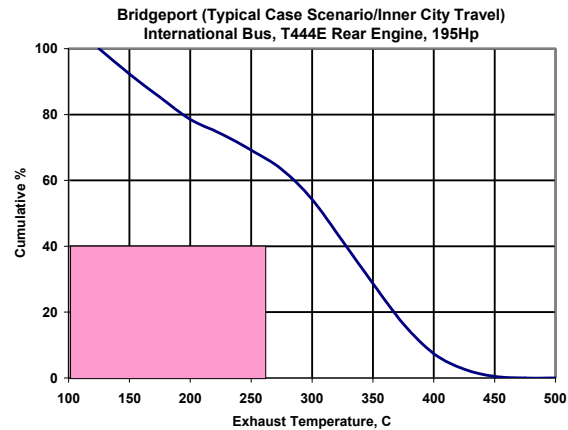
4-stroke, turbo, non-EGR engines

**Engine-out PM is $0.01 < \text{PM} < 0.1$
gm/bhp-hr**

**Duty cycle: 260°C for more than 40% of
time**

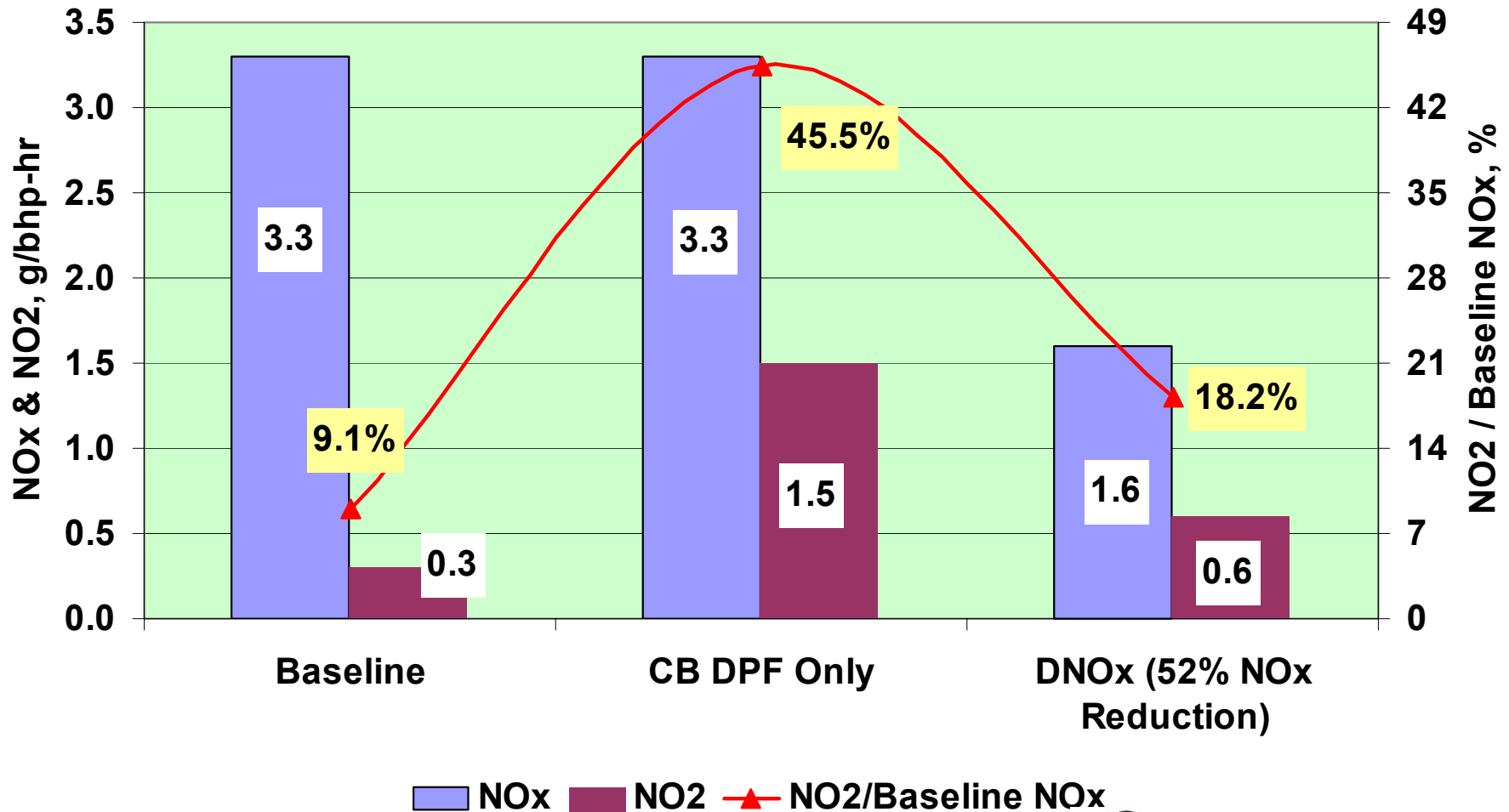
**Refer to CARB website for complete
details**

Example of Connecticut School Bus Duty Cycle Suitability for use of EGRT



EGRT Controls NO₂ Production

(Scania 9L Euro-3 Bus Engine, ETC)



EGRT Summary

**Well proven with over 2400 systems
installed worldwide**

CARB verified

Commercially available

Requires ULSF

Installation takes ~ 16 man-hr

CCT®

Catalytic Combustion Technology

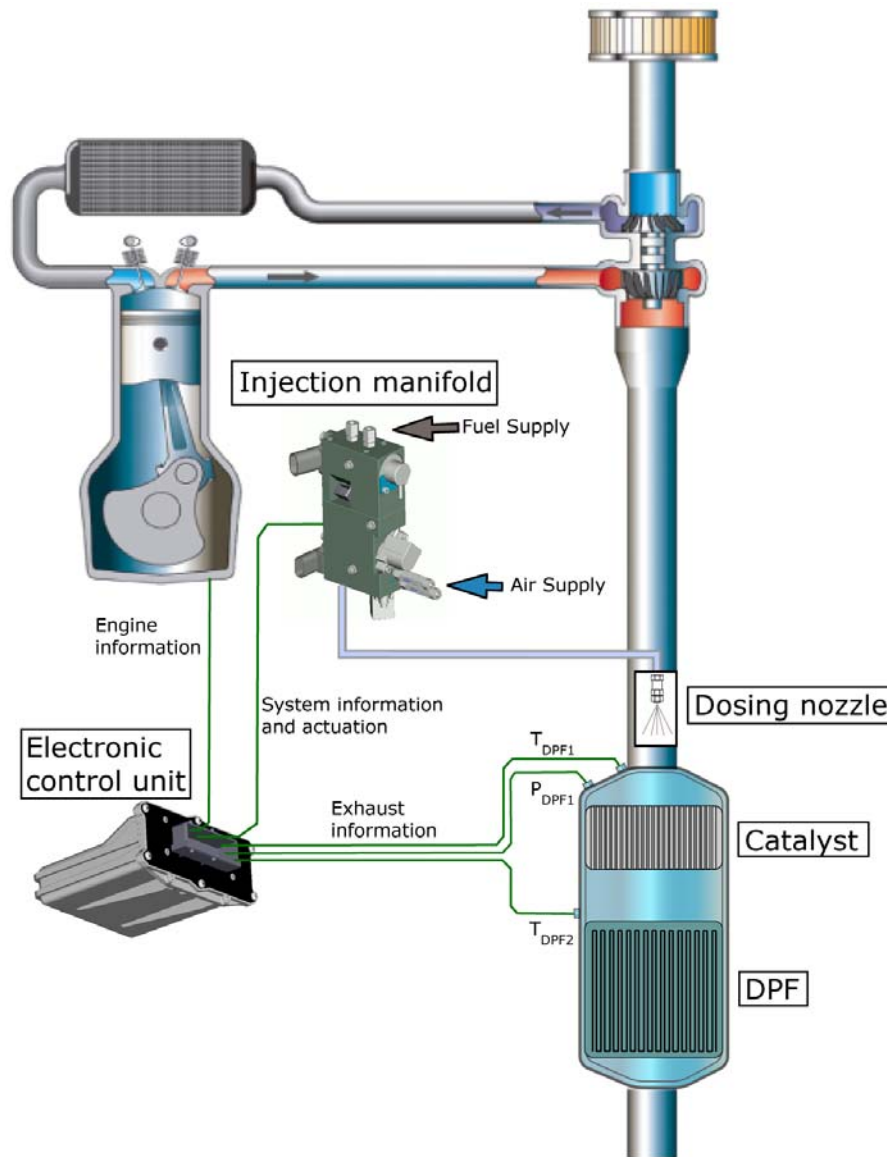
For DPF Active

Regeneration Control

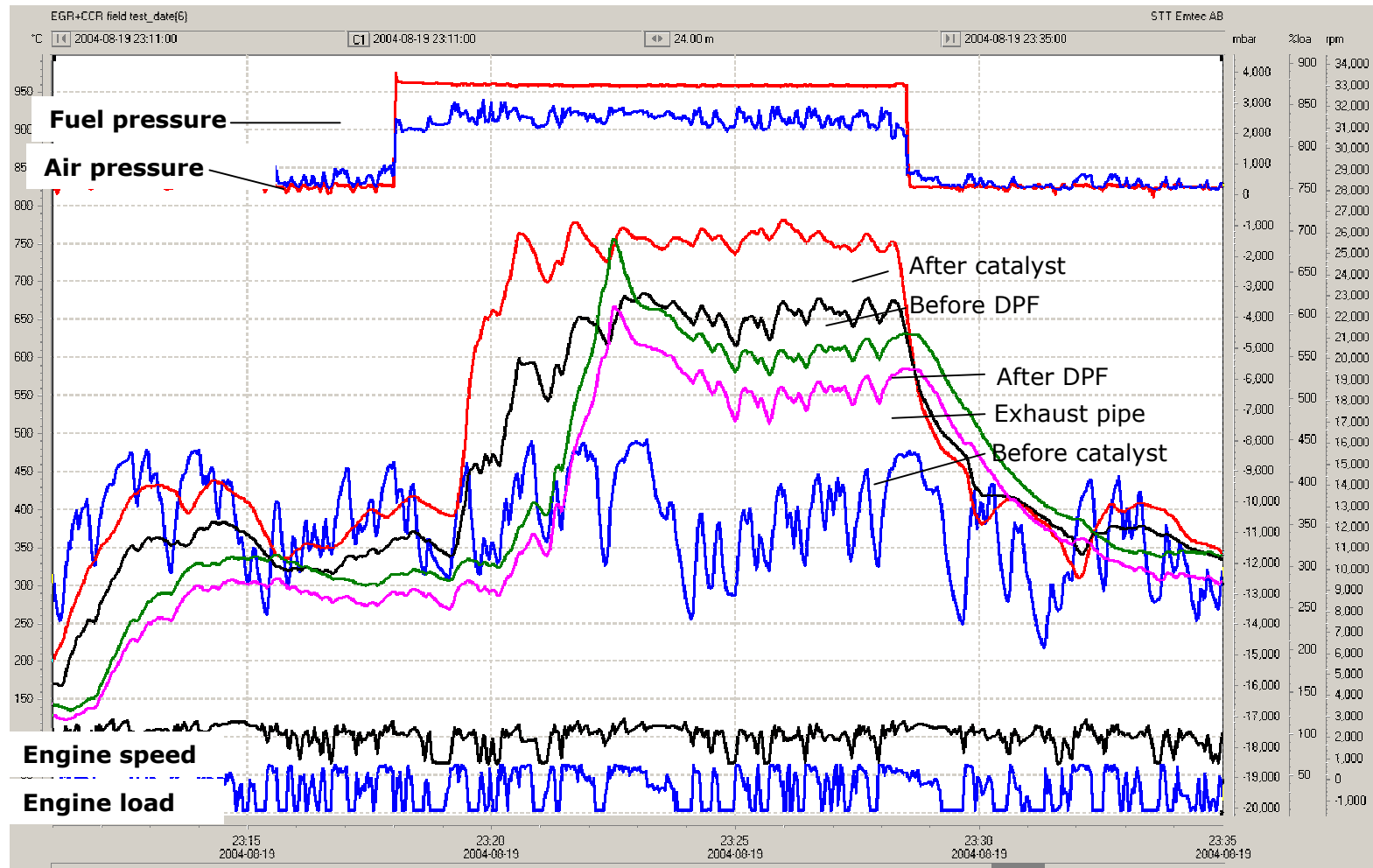
**CCT Provides
Reliable Mean of Regeneration
to
Low-temperature
and/or
High-PM applications**

**Currently Available on an
Experimental Basis**

CCT System Layout



An Example of a Regeneration Event



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Thank you for your attention